

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: INVUE

Report Number: P367000

Luminaire Tested: **MSA-SA1D-727-U-SL2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367000  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-16)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1D-727-U-SL2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5697 lumens  
Efficiency: N/A  
Efficacy: 85.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B1 - U0 - G2

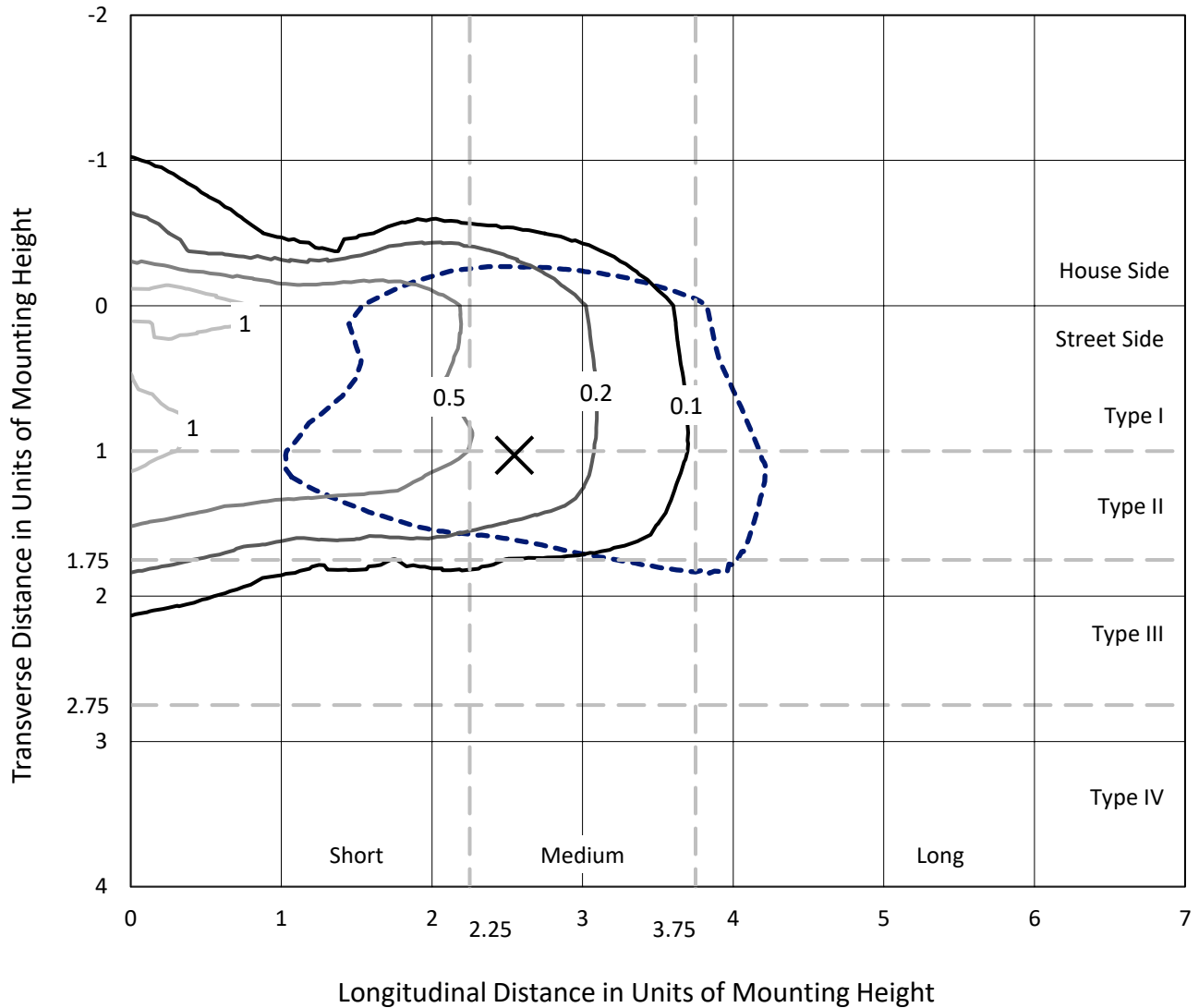
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

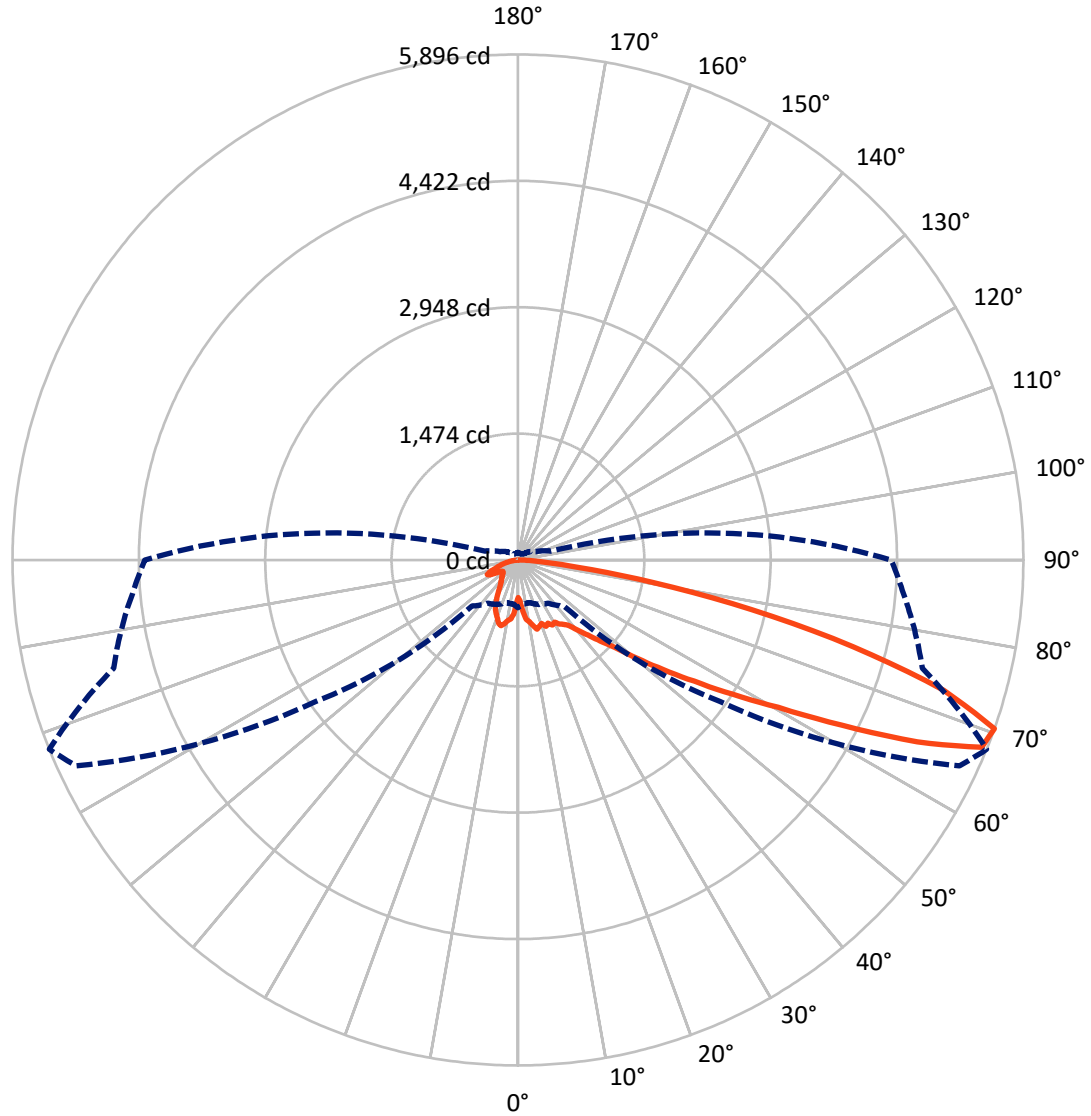
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.4 fc  
 Type III - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1087.7	0.0	1087.7
	% Fixture	19.1	0.0	19.1
<b>Street Side</b>	Lumens	4609.3	0.0	4609.3
	% Fixture	80.9	0.0	80.9
<b>Total</b>	Lumens	5697.0	0.0	5697.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.3	1.0
10°-20°	190.1	3.3
20°-30°	289.2	5.1
30°-40°	441.8	7.8
40°-50°	759.7	13.3
50°-60°	1257.4	22.1
60°-70°	1550.2	27.2
70°-80°	995.8	17.5
80°-90°	154.5	2.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	5697.0	100.0
0°-180°	5697.0	100.0

**Coefficient of Utilization**



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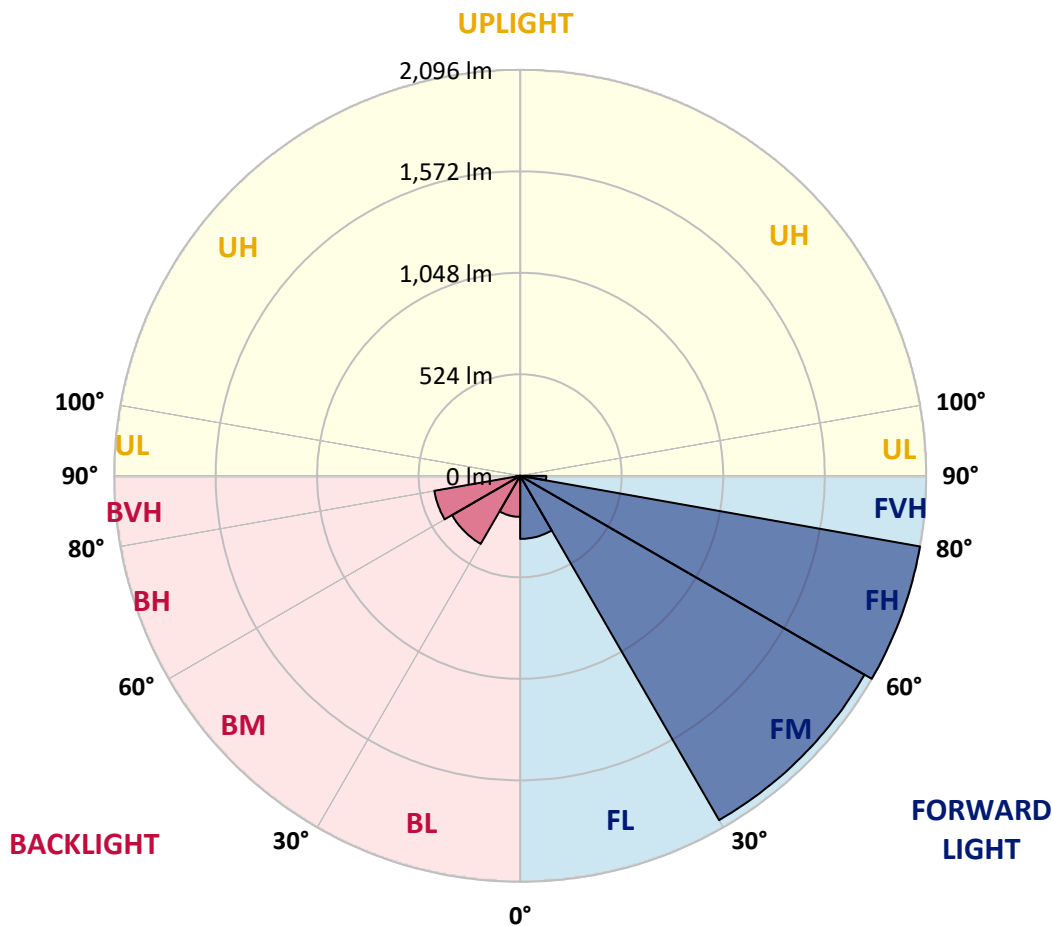
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	325.8	5.7			
FM (30°-60°)	2052.8	36.0			
FH (60°-80°)	2096.1	36.8			G2/5000
FVH (80°-90°)	134.6	2.4			G2/225
BL (0°-30°)	211.9	3.7	B1/500		
BM (30°-60°)	406.0	7.1	B1/1000		
BH (60°-80°)	449.9	7.9	B1/500		G1/500
BVH (80°-90°)	19.8	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	436.8	436.8	436.8	436.8	436.8	436.8	436.8	436.8	436.8	436.8	436.8
2.5°	501.9	481.6	461.1	471.1	487.1	501.2	498.3	500.0	480.7	478.1	528.8
5°	591.3	556.5	555.8	556.3	557.7	541.5	581.1	601.6	606.1	627.1	676.9
7.5°	622.3	608.2	593.9	601.1	583.0	584.6	633.3	686.7	699.3	714.6	782.8
10°	615.9	602.5	606.8	608.0	611.3	638.3	669.5	720.8	731.5	780.2	797.8
12.5°	616.8	614.4	634.5	635.2	671.0	719.4	731.8	779.0	783.3	819.0	892.7
15°	649.5	665.9	654.7	660.7	667.6	725.6	743.4	811.1	836.9	882.9	938.2
17.5°	713.2	717.9	684.3	675.5	698.1	715.8	756.5	785.9	812.8	941.3	1017.6
20°	727.9	740.8	700.8	655.2	703.1	727.7	756.1	769.4	790.4	949.9	1058.2
22.5°	791.4	764.7	716.3	676.7	692.4	716.3	736.8	787.1	842.1	925.4	1098.7
25°	827.4	811.9	768.7	726.3	712.9	713.6	753.2	798.3	817.3	961.4	1106.8
27.5°	914.4	889.6	792.6	784.4	734.1	695.0	755.8	825.9	859.3	933.2	1146.4
30°	1023.4	1004.5	877.2	866.5	789.7	721.5	789.2	846.4	841.7	951.6	1173.8
32.5°	1111.6	1143.0	1014.5	929.9	875.3	810.0	778.7	842.9	890.3	994.3	1220.3
35°	1237.5	1267.0	1121.6	1064.4	945.9	851.0	851.9	892.0	921.3	1044.1	1272.3
37.5°	1455.4	1429.4	1312.3	1222.0	1146.1	1004.5	962.1	948.0	971.6	1105.1	1374.1
40°	1612.5	1590.6	1452.8	1401.3	1253.7	1171.4	1055.1	1041.7	1083.4	1168.1	1457.3
42.5°	1798.7	1759.6	1631.4	1588.9	1434.7	1286.3	1169.0	1176.7	1196.9	1286.8	1569.8
45°	1988.3	1893.4	1820.7	1817.3	1714.3	1509.5	1351.9	1345.7	1346.4	1461.6	1696.2
47.5°	2138.7	2053.4	1970.2	1930.6	1878.6	1895.5	1617.5	1544.8	1522.9	1637.6	1885.8
50°	2240.6	2142.3	2048.1	2038.8	2177.6	2268.9	1866.9	1789.2	1802.8	1889.3	2138.5
52.5°	2242.7	2126.1	2027.9	2093.0	2419.9	2550.5	2296.6	2079.4	2122.8	2181.7	2468.3
55°	2086.8	1965.9	1902.0	2050.3	2514.5	2884.6	2900.3	2544.3	2494.2	2515.9	2862.4
57.5°	1758.0	1635.9	1598.7	1776.3	2335.0	3206.7	3629.4	3099.9	2953.0	2862.4	3266.3
60°	1323.3	1217.7	1194.5	1307.8	1935.8	3112.0	4219.8	3791.3	3492.1	3249.4	3671.4
62.5°	992.4	916.5	881.7	897.9	1339.5	2804.2	4607.5	4664.9	4241.2	3671.9	4067.2
65°	806.4	745.1	714.1	693.1	833.1	2168.3	4537.4	5400.3	5116.3	4115.6	4375.2
67.5°	673.6	619.2	604.9	625.4	658.6	1258.0	3989.0	5811.6	5830.9	4553.4	4555.3
70°	559.1	518.8	513.6	571.8	615.4	759.2	2881.2	5682.3	5895.5	4881.7	4513.1
72.5°	432.0	410.3	409.6	500.9	611.3	647.1	1715.8	4908.9	5195.2	4776.8	4100.1
75°	299.7	284.7	296.1	411.8	597.3	656.4	979.2	3823.5	4037.9	4064.8	3284.4
77.5°	206.2	193.6	206.0	297.8	533.4	672.1	685.0	2764.6	2788.5	2725.8	1881.2
80°	143.5	134.7	144.3	210.8	415.1	665.2	583.2	1740.6	1597.0	1216.5	602.3
82.5°	88.9	86.3	96.8	150.2	292.3	605.1	552.7	898.2	685.7	335.7	215.1
85°	46.7	42.9	56.3	98.0	182.9	475.0	517.9	409.9	264.7	119.2	86.3
87.5°	13.8	12.4	21.7	39.6	77.5	212.9	296.4	173.8	98.7	35.0	26.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	436.8	436.8	436.8	436.8	436.8	436.8	436.8	436.8	436.8	436.8	436.8
2.5°	532.4	529.8	494.5	499.0	506.7	508.6	508.3	495.5	481.9	519.8	518.6
5°	678.1	654.5	636.9	633.0	611.3	589.6	597.3	594.7	591.3	608.5	610.6
7.5°	783.0	750.3	729.8	677.1	627.1	583.7	597.5	601.8	593.2	624.2	633.5
10°	810.7	784.9	762.7	695.0	667.4	642.1	604.7	562.0	556.3	538.4	540.5
12.5°	882.0	878.4	802.8	743.2	707.2	656.9	576.1	524.3	480.0	482.1	469.2
15°	938.2	940.1	849.3	765.8	669.3	592.5	497.4	433.0	387.5	378.4	369.1
17.5°	1013.8	1010.0	853.1	738.7	616.3	503.8	387.2	323.3	315.7	320.9	312.8
20°	1046.7	1013.1	828.8	671.2	533.6	382.7	292.6	258.7	273.5	294.5	294.9
22.5°	1076.3	1018.8	816.2	616.8	423.5	278.3	234.9	228.7	246.1	274.4	276.8
25°	1075.1	1045.3	793.5	562.0	328.3	217.2	204.1	208.6	229.4	258.9	260.6
27.5°	1129.2	1025.0	734.6	490.0	247.3	186.0	189.3	197.7	207.4	235.6	241.1
30°	1128.7	1062.7	705.0	402.5	198.6	170.5	179.1	186.2	194.3	220.1	223.2
32.5°	1155.4	1038.1	687.2	313.1	178.1	166.7	168.8	176.0	187.6	205.1	207.2
35°	1187.6	1066.0	629.9	248.7	170.5	163.3	165.0	169.0	179.8	195.8	197.9
37.5°	1290.9	1071.3	607.3	209.6	170.0	161.9	161.7	163.8	176.0	190.5	196.9
40°	1331.2	1119.2	541.2	195.8	168.3	161.9	158.6	159.8	169.8	188.4	193.4
42.5°	1427.7	1135.2	492.4	191.0	168.3	159.0	153.8	155.7	167.4	183.8	191.7
45°	1527.2	1157.8	434.2	190.0	168.1	158.8	148.8	153.1	162.6	176.4	185.0
47.5°	1668.8	1239.4	376.0	187.2	166.2	160.0	147.6	147.4	155.7	167.6	175.7
50°	1899.8	1366.7	330.9	183.6	166.4	159.0	145.2	141.9	147.4	157.8	165.7
52.5°	2221.5	1583.7	313.3	181.7	164.5	155.2	141.2	135.9	139.0	147.4	155.0
55°	2594.9	1876.7	330.7	181.7	160.7	149.3	135.4	129.2	130.9	136.6	144.0
57.5°	3031.2	2240.8	414.9	179.1	155.9	142.1	128.5	121.4	121.8	126.8	133.5
60°	3486.8	2647.6	603.5	176.9	152.6	134.2	120.4	113.0	112.3	117.1	123.0
62.5°	3943.2	3022.9	801.9	181.9	151.6	127.6	111.8	104.4	104.2	108.5	113.5
65°	4306.1	3279.4	851.2	202.2	157.8	119.9	103.0	96.1	95.6	99.2	104.7
67.5°	4484.2	3316.6	646.6	227.5	171.0	112.8	94.4	88.0	87.5	91.3	96.1
70°	4352.4	3062.4	399.1	230.1	170.2	104.4	85.6	80.1	79.2	83.2	86.8
72.5°	3864.5	2678.8	303.3	203.6	147.4	92.5	76.8	72.0	70.6	74.2	77.5
75°	3101.8	2126.8	243.0	164.3	116.1	78.0	68.0	63.4	61.8	65.1	68.0
77.5°	1806.8	1196.5	177.6	128.3	87.7	63.7	57.9	53.9	52.0	55.6	57.7
80°	587.5	398.7	111.6	92.0	64.1	49.8	47.0	44.1	42.2	44.6	45.3
82.5°	211.0	148.3	61.8	56.5	42.7	35.8	35.5	33.9	31.5	32.4	32.4
85°	93.5	67.7	36.7	30.3	25.5	19.1	22.4	21.2	18.8	18.4	17.6
87.5°	26.2	22.4	13.4	10.3	8.3	3.1	7.2	6.4	5.2	4.8	3.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)